IN THE
SUPREME COURT OF MISSOURI

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No. SC 83599

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UTILICORP UNITED, INC., *et al.*,

Appellants,

v.

DIRECTOR OF REVENUE,

Respondent.

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On Petition for Review from the
Missouri Administrative Hearing Commission
Hon. Willard C. Reine, Commissioner

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BRIEF OF APPELLANT

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JURISDICTIONAL STATEMENT

The sole issue before the Court is whether the terms "manufacturing" in §§ 144.030.2(4)[1] and 144.030.2(5) and "producing" in § 144.030.2(4) include the production and transformations of electric power that the machinery and equipment at issue make in order to provide electric power in the form Appellants' customers demand, and in a form usable by, and not harmful to, those customers. Appellants purchased machinery and equipment that, working together, allow Appellants to control the output of electricity generators so that the quantity and quality of electric power manufactured satisfy the demands of Appellants' customers and requirements of regulators. In addition, Appellants purchased transformers and capacitors that alter the voltage of electricity and/or correct the reactive component of electricity to make it more marketable and useable and to satisfy regulatory requirements.

The Administrative Hearing Commission ("Commission") denied the exemptions on the basis that the machinery and equipment did not directly "create" electricity.

The Court's review of this case will, therefore, necessarily involve the construction of §§ 144.030.2(4) and (5), which are revenue laws of the State of Missouri. This Court has exclusive jurisdiction over these issues pursuant to Article V, § 3 of the Missouri Constitution.

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[1] All statutory citations are to the Revised Statutes of Missouri of 1994, unless otherwise noted.

STATEMENT OF FACTS

Introduction

The issue before this Court is whether Appellants use power transformers, current transformers, capacitators and SCADA equipment (each and collectively, the "Machinery and Equipment") to manufacture and/or produce electricity or electric service. The Machinery and Equipment either:

(a) transform electric voltage to levels required by regulators and/or customers;

(b) transform electric voltage to levels required by regulators and/or customers and enhance the electricity's power factor; or

(c) control the electric generators' output to maintain a stable electric utility system by matching supply with demand for electrical energy.

Each device is absolutely essential to the provision of electricity in the form purchased by Appellants' customers and required by regulators. Without the use of the Machinery and Equipment:

(1) Appellants' utility systems may become unstable and thereby have brownouts or blackouts (current transformers and SCADA equipment);

(2) the electrical service provided will be in such an unusable and dangerous form that it may destroy Appellants' customers'

appliances and burn their buildings (power transformers and capacitors); and

(3) the electrical service will have a lower power factor and will not be as capable of performing useful work for Appellants' customers (capacitors).

The Director argued, and the Commission found, that none of the Machinery and Equipment directly "created" electricity, and therefore was not "used directly in manufacturing" for purposes of §§ 144.030.2(4) and 144.030.2(5) (L.F. 134).

The factual record consists of the parties' detailed stipulation of facts, consisting of seventy-five paragraphs on fifteen pages, with attachments (L.F. 28-104). The stipulation of facts, as well as Exhibit A thereto (a drawing of a utility system), are attached hereto as Appendix A (paginated with both Appendix page numbers and Legal File (L.F.) page numbers).[2] The facts in this case are summarized below.

[2] Stipulation exhibits that are not included within the Appendix hereto are the refund denial letters, refund claims, and supporting spreadsheets (Exs. B-D), Missouri Public Service Commission Standards of Quality, 4 CSR 240-10.030 (Ex. E), Generation Control and Performance Standards of the North American Electric Reliability Council (Ex. F), and an electric system schematic (Ex. G).

Appellants' Operations Generally

Appellants are UtiliCorp United, Inc., d/b/a Missouri Public Service Company ("UtiliCorp"), Sho-Me Power Electric Cooperative, Inc. ("Sho-Me"), and NW Electric Power Cooperative, Inc. ("NW"). UtiliCorp is a for-profit corporation. NW and Sho-Me are electric cooperatives formed under Chapter 394 of the Revised Statutes of Missouri; their customers are their members. Each Appellant is a Missouri electric utility that uses its electric utility systems to produce and sell electricity/electric energy to its customers at their electric meters. (L.F. 28, ¶ 1). In the absence of a statutory sales tax exemption, Appellants collected and remitted Missouri sales tax on all of their sales of electricity/electric energy (L.F. 33-34, ¶ 30). Appellants are regulated by the Missouri Public Service Commission ("MPSC") and/or the North American Electric Reliability Council ("NERC") (L.F. 34, ¶¶ 32-34).

1. UtiliCorp

During tax periods July 1996 through April 1998 ("Utilicorp's Tax Periods"), Utilicorp had roughly 246,000 customers geographically dispersed in its service area in western Missouri. Utilicorp's customers consisted of commercial, residential, retail, and wholesale classes of customers. Each customer class had different demands for the voltage of its electricity from other classes, and some members within each class had demands different from other members of their class. (L.F. 28-29, ¶ 2).

Specifically, UtiliCorp's residential and small business customers demand electricity at 120 or 240 volts; its light industrial customers demand electricity at 277 or 480 volts; its light/medium industrial customers demand electricity at 480 volts; its heavy

industrial customers demand electricity at 4,000 volts; its medium industrial customers, airlines, and electric cooperative customers demand electricity at 12,470 volts; its large industrial customers and municipalities demand electricity at 34,500 volts; and its heaviest industrial customers and other utilities demand electricity at 69,000 or 161,000 volts. (L.F. 34-35, ¶ 35).

UtiliCorp owns and operates power plants that, by use of high-speed electric generators, transform mechanical energy created by steam turbines into electricity. The generated electricity exits the high-speed generators between 12,500 volts and 22,000 volts. UtiliCorp also buys electricity from other utilities. It must first transform all of the electricity it sells to a higher or lower voltage to meet all but one of its customers' demands and regulators' requirements. Consequently, it has 153 substations dispersed throughout its utility system. The substations contain various pieces of Machinery and Equipment that transform electricity to the form UtiliCorp's customers demand and regulators require, and that maintain a stable electric utility system. (L.F. 28-29, ¶ 2; L.F. 35, ¶ 37).

2. Sho-Me

During tax periods April 1996 through August 1997 ("Sho-Me's Tax Periods"), Sho-Me had 27 customers geographically dispersed throughout its service area in south-central Missouri. Its customers include the following classes: electric cooperatives, municipalities, and one industrial consumer. Each class of customers had different demands for electricity voltage from other classes, and some members within each class had demands different from other members of their class. (L.F. 29, ¶ 3).

Sho-Me owns and operates a hydro-electric power plant where, by use of high-speed electric generators, it transforms mechanical energy generated by water force into electricity. The generated electricity exits the high-speed generators at 2,400 volts. Additionally, Sho-Me purchases electricity from another utility, Associated Electric Cooperative, Inc. ("Associated"), at 161,000 or 69,000 volts. Sho-Me must first transform all of the electricity it sells to a higher or lower voltage in order to meet its customers' demands and regulators' requirements because none of its customers consume electricity at the voltages at which the electricity leaves Sho-Me's power generators or is purchased from Associated. Consequently, Sho-Me has 150 substations throughout its utility system that contain various pieces of Machinery and Equipment that transform electricity to the form Sho-Me's customers demand and regulators require, and that maintain a stable electric utility system. (L.F. 29, ¶ 3; 35, ¶¶ 36, 38).

3. NW

During the tax periods June 1996 through December 1997 ("NW's Tax Periods"), NW had seven customers geographically dispersed throughout northwest Missouri. Its customers consisted of electric cooperatives. NW does not generate any electricity, but rather purchases electricity from Associated and must transform all of the electricity to a higher or lower voltage in order to meet its customers' demands and regulators' requirements because none of its customers consume electricity at the voltage at which NW purchases it. Consequently, NW has 126 substations that contain various pieces of Machinery and Equipment that transform electricity to the form NW's customers demand

and regulators require, and that maintain a stable electric utility system. (L.F. 29, ¶ 4; L.F. 36, ¶¶ 36, 38).

Basic Electric Utility Industry Concepts

Electricity has a force measured in volts and a current measured in amperes or amps. Electric power is measured in watts, kilowatts, or megawatts. One watt is equal to one amp times one volt. Electric power can be, and is, consumed in many forms. For instance, residential consumers demand their power at 120/240 volts. While the voltage demanded by a residence remains a constant 120/240 volts, the number of amps, or current, fluctuates due to the amount of current particular appliances draw when they are turned on. (L.F. 30, ¶¶ 9-13).

Electric energy is power provided over time. Electric utilities provide electric energy at their customers' meters in some unit of watt-hours, usually kilowatt hours ("kwh"), representing 1,000 watts of power provided for one hour. For example, if all of the appliances of a residence draw 10 amps at 120 volts, the power demanded is 1,200 watts. If that power is demanded for one hour, that residence has consumed 1,200 watt-hours of energy, or 1.2 kwh. (L.F. 30-31, ¶¶ 9-13, 17).

The voltage at which electricity is provided to customers is important because providing electricity at the wrong voltage, particularly at higher voltages, can destroy electric appliances, start fires, and is of little or no use to customers whose appliances demand a different voltage (L.F. 36, ¶ 40).

Production by an Electric Utility System

Exhibit A to the stipulation of facts (Appendix A-17, L.F. 44) is a drawing of a typical electric utility system. It shows the relative locations of the various items of Machinery and Equipment that electric utilities must employ to meet consumer demands and regulatory requirements.

The high-speed generators that convert mechanical energy into electrical energy produce power at between 12,500 volts and 22,000 volts—a force ("voltage") in a form that is used by virtually no consumers (L.F. 28-29, ¶ 2-4; L.F. 32, ¶ 19; L.F. 34-36, ¶¶ 35-42). In this case, of Appellants' more than 250,000 consumers, only one demanded electricity at the generation voltage (L.F. 28-29, ¶ 2-4; L.F. 35, ¶ 37). Some consumers demanded electricity at much higher voltages (as high as 161,000 volts) while others demanded electricity at much lower voltages, such as residential consumers that demanded electricity at 120 volts (L.F. 32, ¶ 19; L.F. 34-35, ¶¶ 35- 37).

Due to these various demands for electricity at voltages different than the generation voltage, electric utilities must transform electricity to the voltage demanded by their customers. Furthermore, electric utilities must satisfy certain regulatory standards for the form of electric power. For instance, the MPSC requires that power supplied to residential customers have voltages no less than 110 volts nor more than 127 volts. (L.F. 32, ¶19; L.F. 34-36, ¶¶ 35-47).

Most of the devices electric utilities use to transform electricity are power transformers. When combined with voltage regulators, they are called load tap changing transformers. Electric utilities employ various forms of power transformers to convert

electric power to the voltage demanded by their customers; some power transformers increase voltage while others decrease it. (L.F. 37-38, ¶¶ 48-50).

Power transformers do not create electric energy or power, but instead convert or transform it. Thus, the power of the electricity remains unchanged even though its voltage and amperage have been transformed. For example, a transformer may convert power at 10,000 volts (10 kV) and one amp into power at 1,000 volts (1 kV) and ten amps. In either form, the electricity represents 10,000 watts, or 10 kW. Utilities may use a series of power transformers to increase or decrease voltage to that demanded by their customers. These transformers are located at various places within the utility system, as shown on Exhibit A to the stipulation of facts. *See* Appendix A-17 (L.F. 44). A transformer that increases voltage may be located near the power plant. Transformers that decrease voltage may be located throughout the utility system at transmission substations, distribution substations (load tap changing transformers), and on pads or poles near customers' meters. (L.F. 30-31, ¶¶ 9-17; L.F. 35-36, ¶¶ 39- 43, Appendix
A-17).

Electricity must be at a low current for efficient transmission and distribution because the wire thickness required to transmit electricity must increase as the current increases. Therefore, before transmitting electricity over long distances, electric utilities will transform the electricity to a lower current and higher voltage. (L.F. 31, ¶¶ 17-18).

Certain devices that have electric motors are inductors and, as such, can have an impact on the utility system supplying their power because inductors (wire windings in motors) cause the electricity's current cycle to lag its voltage cycle, thereby lowering its

power factor: the component of electric power that can perform work. To correct this problem, utilities electronically apply capacitors on demand. Those capacitors must be located at or near the location of the inductors. Thus, capacitors increase the quality of electric power by correcting its power factor. Capacitors, like power transformers, also transform the voltage of electricity. (L.F. 33, ¶ 29; L.F. 38-39, ¶ 51-52).

Finally, electric power has a frequency measured in cycles per second, or hertz. The frequency is a reflection of the utility system's ability to match its supply of electricity with the contemporaneous demand for the same. Electric utility systems are interconnected with neighboring systems to allow one system to supply its excess power to other systems during times of emergency, such as when a power plant fails. In that regard, NERC has set certain standards for the quality of electric power so that it is uniform. For instance, electricity must be sold at frequencies that are at or near sixty cycles per second. When the frequency of electricity departs from the sixty-cycle standard, consumers' electric clocks keep the wrong time. When the frequency markedly departs from that standard, brown-outs or black-outs can occur. (L.F. 32-33, ¶¶ 22-25; L.F. 39-40, ¶¶ 53-60).

To maintain the frequency of the electric power, utilities employ machinery and equipment to monitor customer loads and electricity quality to control the output of the high-speed generators. Current transformers are devices located in substations to measure the current and voltage of power in the utility system. Current transformers send this data to remote terminal units ("RTUs"). As depicted in Exhibit A to the stipulation (Appendix A-17 hereto; L.F. 44), RTUs and current transformers are located at various places

throughout the utility system. The RTUs assemble data and convey the same to Supervisory Control and Data Acquisition ("SCADA") equipment, which, in turn, controls the Automated Generation Control (AGC) devices at the power plant generating the electricity monitored by the equipment. The AGC devices control the output of the generators at the power plant so that the supply of electricity meets its demand and the required system frequency of sixty cycles per second can be maintained. UtiliCorp's monitoring equipment, SCADA devices, and AGC equipment control generators at its power plants. The monitoring equipment, SCADA devices, and AGC equipment of Sho-Me and NW control generators located at Associated's power plants supplying electric power to Sho-Me and NW. (L.F. 39-40, ¶¶ 57-60).

Utility Accounting

The electric utility industry divides its utility system into three stages: production, transmission and distribution as depicted on Exhibit A to the stipulation of facts. *See* Appendix A-17 (L.F. 44). Production includes the generation of electricity and/or its purchase from other utilities. Generation of electricity occurs at a power plant that harnesses some form of energy, such as fossil fuels, uranium, or water pressure, and converts that into mechanical energy and then electricity. The power plant station switchyard includes step-up transformers to increase the power's voltage, lightning arrestors, generation breakers, potential transformers, current transformers, and other items of machinery and equipment. (L.F. 31, ¶ 14; Appendix A-17, L.F. 44).

Transmission is the transfer of electricity over long distances from the production stage to the distribution stage. Electricity is transmitted at high voltage over steel

transmission towers to transmission substations that house shunt reactors, capacitors, potential transformers, current transformers, lightning arrestors, power transformers, circuit breakers, instrument transformers, and other devices. If the utility purchases power, it will accept the same at the shunt reactors. Any power sold to large industrial consumers will occur from the transmission substation. From the transmission substation, the electricity is transferred across wires on wooden poles to distribution substations. (Exhibit A to Appendix at A-17, L.F. 44; L.F. 31, ¶¶ 14, 18).

Distribution is the transfer of electricity to customers. Distribution substations house lightning arrestors, instrument transformers, circuit breakers, air disconnect switches, potential transformers, current transformers, capacitors, load tap changing transformers and vacuum breakers. From the distribution substation, the electricity moves on wires mounted on wooden poles to power transformers mounted on poles or pads. The transformers convert electricity to the voltage demanded by the customers in the vicinity of these transformers. The resulting electricity then moves through wires to the customers' meters, where the customers can use the electricity. (Exhibit A to Appendix at A-17, L.F. 44; L.F. 31, ¶¶ 14, 18).

Appellants' Machinery and Equipment

Appellants paid Missouri use tax on their purchases of the Machinery and Equipment, and sought a refund of the tax under §§ 144.030.2(4) and 144.030.2(5) because Appellants use the Machinery and Equipment to manufacture products (electricity or electric service) they sell to customers (Stip. Exs. B-D, L.F. 45-57).

Each Appellant's refund claim seeks the refund of use tax remitted on power transformers used, individually and in combination with other power transformers, to reduce the voltage of electricity to the state demanded by Appellants' respective customers and/or required by regulators (L.F. 33-37, ¶¶ 30-46; L.F. 40-41, ¶¶ 61-64).

Sho-Me's and NW's refund claims seek the refund of use tax remitted on capacitors purchased and used to correct the power factor of electric power in the vicinity of their customers using large inductors (electric motors). By correctly electronically applying capacitors to the system in the vicinity of these customers, Sho-Me and NW correct the reactive component of the electric power, thereby increasing its power factor, and making it more useful for their customers. The capacitors also alter the electricity's voltage. (L.F. 33-37, ¶¶ 30-46; L.F. 41, ¶¶ 65-67).

UtiliCorp's refund claims seek the refund of use tax remitted on current transformers it purchased and used to monitor the current and voltage of power in the electric utility system. The current transformers, in conjunction with RTUs, SCADA equipment, and AGC equipment, control the high-speed generators' output to supply the correct amount of power to meet customer demand, and to maintain the frequency of the electric utility system. Likewise, Sho-Me's and NW's refund claims seek the refund of use tax remitted on purchases of SCADA hardware used in the same manner. (L.F. 33-37, ¶¶ 30-46; L.F. 41, ¶¶ 68-69).

All of the Machinery and Equipment constitutes machinery and equipment within the meaning of §§ 144.030.2(4) and 144.030.2(5). All of the devices at issue that were purchased prior to August 28, 1996, were purchased to expand Appellants' service of

supplying electric power or to replace existing devices as a result of a system design change and were used for the same purpose as the devices they replaced. All of the devices at issue that were purchased on or after August 28, 1996, were purchased to expand Appellants' service of supplying electric power or to replace existing devices and were used for the same purpose as the devices they replaced. (L.F. 42, ¶¶ 73, 75).

The Commission's Decision

The Commission consolidated the Appellants' separate appeals and rendered a decision on stipulated facts without conducting a hearing (L.F. 25, 105-6). The Commission's Findings of Fact incorporate the parties' stipulation of facts. In the Commission's conclusions of law, it determined that none of the Machinery and Equipment directly "created" electricity and that "electricity is still electricity" (L.F. 134). It concluded that manufacturing is complete when electricity leaves the high-speed generators (L.F. 134). Although the SCADA equipment and current transformers control the output of the same power generators the Commission determined were used in manufacturing, the Commission denied the exemption for those devices as well, presumably because they did not physically create electricity.

STATEMENT OF THE ISSUE

Missouri law provides that ***manufacturing*** includes the alteration or physical change of an object in such a way that produces an article with a use, identity, and value different from the use, identity, and value of the original. To produce electricity for sale to their customers, Appellants:

(1) use ***current transformers and SCADA equipment,*** along with other equipment, to directly control the output of the electric generators that create electricity by altering and physically changing mechanical energy into electrical energy;

(2) use ***capacitors*** to alter and physically change (correct) the reactive component of electricity and to alter and physically change its voltage to make it more marketable to, useable by, and not harmful to their customers and to meet regulatory requirements; and

(3) use ***power transformers*** to alter and physically change the voltage of electric power to make it marketable to, useable by, and not harmful to their customers and to meet regulatory requirements.

Are the power transformers, capacitors, current transformers and SCADA equipment used in manufacturing?

STANDARD OF REVIEW

The decision of the Commission shall be upheld if it is: (1) authorized by law; (2) supported by competent and substantial evidence upon the whole record; (3) if no mandatory procedural safeguards are violated; and (4) where the Commission has discretion, it exercises discretion in a way that is not clearly contrary to the Legislature's reasonable expectations. § 621.193; *Concord Publishing House, Inc. v. Director of Revenue*, 916 S.W.2d 186 (Mo. banc 1996). Only the first two standards are at issue in this case. Furthermore, this Court's interpretation of Missouri's revenue laws is *de novo*. *Zip Mail Services, Inc. v. Director of Revenue*, 16 S.W.3d 588, 590 (Mo. banc 2000).

POINT RELIED ON

THE ADMINISTRATIVE HEARING COMMISSION ERRED IN DENYING APPELLANTS' REFUND CLAIMS BECAUSE, UNDER SECTIONS 621.189 AND 621.193, THAT DECISION IS NOT AUTHORIZED BY LAW OR SUPPORTED BY COMPETENT AND SUBSTANTIAL EVIDENCE IN THAT APPELLANT'S PURCHASES OF MACHINERY AND EQUIPMENT ARE EXEMPT FROM MISSOURI USE TAX UNDER SECTIONS 144.615(3) AND 144.030.2(4) AND (5) BECAUSE THE MACHINERY AND EQUIPMENT IS USED TO MANUFACTURE A PRODUCT WITHIN THE MEANING OF THOSE SECTIONS.

Jackson Excavating v. Administrative Hearing Commission, 646 S.W.2d 48 (Mo. 1983);

West Lake Quarry & Material Company, Inc. v. Schaffner, 451 S.W.2d 140 (Mo. 1970);

City of Louisville v. Howard, 208 S.W.2d 522 (Ky. App. 1947);

Bridge Data Co. v. Director of Revenue, 794 S.W.2d 204 (Mo. banc 1990);

Concord Publishing House, Inc. v. Director of Revenue, 916 S.W.2d 186 (Mo. banc 1996);

DST Systems, Inc. v. Director of Revenue, SC 82797 (April 10, 2001);

Empire District Electric Co. v. Director of Revenue, No. RS-79-0249 (Mo. Admin. Hrg. Comm'n 1983);

Floyd Charcoal Company, Inc. v. Director of Revenue, 599 S.W.2d 173 (Mo. 1980);

Galamet, Inc. v. Director of Revenue, 915 S.W.2d 331 (Mo. banc 1996);

House of Lloyd v. Director of Revenue, 824 S.W.2d 914 (Mo. banc 1992);

International Business Machines Corporation v. Director of Revenue, 958 S.W.2d 554 (Mo. banc 1997);

L & R Egg Co. v. Director of Revenue, 796 S.W.2d 624 (Mo. banc 1990);

Noranda Aluminum, Inc. v. Director of Revenue, 599 S.W.2d 1 (Mo. 1980);

President Riverboat Casino-Missouri, Inc. v. Missouri Gaming Commission, 13 S.W.3d 635 (Mo. banc 2000);

Scotchman's Coin Shop v. Administrative Hearing Commission, 654 S.W.2d 873 (Mo. banc 1983);

Curry v. Alabama Power Company, 8 So.2d 521 (Ala. 1942);

Maine Yankee Atomic Power Co. v. State Tax Assessor, 690 A.2d 497 (Me. 1997);

Niagara Mohawk Power Corp. v. Wanamaker, 144 N.Y.S.2d 458 (N.Y. App. Div. 1955);

Northern States Power Co. v. Commissioner of Revenue, 571 N.W.2d 573 (Minn. 1997);

Section 144.030.2(4);

Section 144.030.2(5);

Section 144.615(3);

Section 621.189;

Section 621.193;

4 CSR 240-10.030;

12 CSR 10-3.326.

ARGUMENT

THE ADMINISTRATIVE HEARING COMMISSION ERRED IN DENYING APPELLANTS' REFUND CLAIMS BECAUSE, UNDER SECTIONS 621.189 AND 621.193, THAT DECISION IS NOT AUTHORIZED BY LAW OR SUPPORTED BY COMPETENT AND SUBSTANTIAL EVIDENCE IN THAT APPELLANT'S PURCHASES OF MACHINERY AND EQUIPMENT ARE EXEMPT FROM MISSOURI USE TAX UNDER SECTIONS 144.615(3) AND 144.030.2(4) AND (5) BECAUSE THE MACHINERY AND EQUIPMENT IS USED TO MANUFACTURE A PRODUCT WITHIN THE MEANING OF THOSE SECTIONS.

The sole issue in this appeal is whether Appellants' purchases of Machinery and Equipment for use in the production of marketable electrical energy are exempt from Missouri sales and use taxation under the manufacturing exemptions set forth in §§144.030.2(4) and 144.030.2(5). Specifically, the question is whether Appellants use the Machinery and Equipment directly to manufacture electrical energy they sell to their customers.

The Director argued, and the Commission found, that the manufacturing of electrical energy ends at the high-speed generators located at the generating plant because no other devices "create" electricity. The Commission also concluded that the Machinery and Equipment did not qualify for exemption because the "electricity [was] still electricity" after the capacitors and power generators altered it (L.F. 134). However, the Commission erred in that regard because Missouri's well-defined case law provides that manufacturing is not complete until the product has reached its final state or form and that, under the

integrated plant approach to manufacturing, all devices contributing to that effort are "directly used" in manufacturing.

I. Appellants "Directly Used" the Machinery and Equipment to Manufacture Electricity.

Appellants claim manufacturing equipment exemptions for plant expansion and for replacement machinery and equipment (L.F. 45-57, 126). At the beginning of the respective Tax Periods, the replacement exemption codified at section 144.030.2(4) provided an exemption for the purchase or sale of:

> Machinery and equipment … replacing and used for the same purposes as the machinery and equipment replaced by reason of design or product changes, which is purchased for and used directly for manufacturing or fabricating a product which is intended to be sold ultimately for final use or consumption

Effective August 28, 1996, the General Assembly eliminated the requirement that machinery and equipment be replaced by reason of product or design changes, and merely required that the replacement machinery and equipment be used for the same purposes, or to produce substantially similar products, as the machinery and equipment replaced.

Section 144.030.2(5) provides the plant expansion exemption for purchases and sales of:

> Machinery and equipment … purchased and used to establish new or to expand existing manufacturing … plants in the state if such machinery and equipment is used directly in manufacturing … a product which is intended to be sold ultimately for final use or consumption[.]

Section 144.615(3) incorporates the above exemptions in the Missouri Use Tax law.

The machinery and equipment at issue here are voltage step-down transformers, current transformers, capacitors, and SCADA equipment. Appellants' generators are not at issue. The Director conceded, and the Commission accepted, that Appellants' generators are used directly in manufacturing (L.F. 128). The Director also conceded that electricity or electrical energy is a product because the Director stipulated that its sale was taxable (L.F. 33-34, ¶ 30).[3] Last, the Director stipulated that the Machinery and Equipment met the design or product change, replacement, and/or expansion requirements (L.F. 42, ¶¶ 73, 75).

In *West Lake Quarry & Material Company, Inc. v. Schaffner*, 451 S.W.2d 140 (Mo. 1970), this Court first addressed the definition of manufacturing. That taxpayer

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[3] In *Bridge Data Co. v. Director of Revenue*, 794 S.W.2d 204, 206 (Mo. banc 1990) and *International Business Machines v. Director of Revenue*, 958 S.W.2d 554, 557-59 (Mo. banc 1997), this Court concluded that tangible personal property and taxable services were "products."

operated a quarry where it mined rock and then used grinding equipment to pulverize the rock in various degrees to meet its customers' demands. The rock was not marketable immediately after it was blasted from the ground. It, in turn, had to be coarsely ground to be used for dike purposes and had to be ground to a fine powder to be used as agricultural lime. In addition, the taxpayer had to grind the rock to various degrees of rock coarseness in between depending upon the particular demands of its customers. *Id*. at 141.

This Court determined that the purpose of the manufacturing equipment exemption was to encourage economic development by encouraging the production of products that are subject to tax. *Id.* at 142. It then determined that the grinding equipment qualified for the manufacturing exemption because:

> [The quarry took] something practically unsuitable for any common use and change[d] it so as to adapt it to such common use[.]
>
> We, therefore, hold that the machinery and equipment used in processing and grinding the rock in various sizes for many different uses is exempt … as used in manufacturing.

Id. at 143. Simply put, this Court did not reject the manufacturing exemption because "rock is still rock."

In *Jackson Excavating v. Administrative Hearing Commission*, 646 S.W.2d 48, 51 (Mo. 1983), this Court determined that treatment and purification of water constituted manufacturing because the process caused "a substantial transformation in quality and adaptability … [creating] an end product quite different from the original." This Court did not reject the exemption because "water is still water."

In *Galamet, Inc. v. Director of Revenue*, 915 S.W.2d 331 (Mo. banc 1996), this Court determined that the process of shredding discarded scrap metal appliances into "shreds" constituted manufacturing because the steel shreds had a new value and use. In determining whether an activity constitutes manufacturing, the *Galamet* Court explained that the "deciding factor was whether the process in question resulted in an end product different in quality and adaptability from the original [citation omitted]. In other words, the end product was suitable for new uses." *Id.* at 334. Simply put, this Court did not reject the exemption because "scrap metal is still scrap metal."

In determining the meaning of manufacturing, the *West Lake* Court reviewed cases from several states, and relied on a Kentucky case, *City of Louisville v. Howard*, 208 S.W.2d 522 (Ky. App. 1947), where the issue was whether electric power transformers, like those purchased by Appellants, were used directly in manufacturing. This Court, in accepting the reasoning of *City of Louisville*, characterized that holding as follows:

> [The Kentucky Court held that] an electrical company's substations and transformers which changed generated electricity so it could be used in homes and places of business constituted machinery used in manufacturing[.]

West Lake Quarry, 451 S.W.2d at 143. With respect to the use of power transformers in the manufacture of electricity, the *City of Louisville* Court concluded:

> Applying the yardstick of our definition [of manufacturing] to the raw, unmeasured volume of electrical energy as it comes out of the generating plant, we must regard it as a thing which is practically

> unsuitable for a common use. Electrical companies do not invest millions of dollars in substations or transformers in the pursuit of a hobby. They make such investments because they are necessary to change generated electricity from a sort of an uncivilized force, unfit to enter a home or place of business, into a subdued servant which may, through "transformer training," become practically suitable for a common use.
>
> We believe that this company's large substations and transformers take an electrical energy, which is practically unsuitable for common use, and change it into a thing of usefulness to mankind. Therefore, we believe that these particular property items constitute machinery used in manufacturing within the meaning of the tax exemption statutes.

City of Louisville, 208 S.W.2d at 527.

The reasoning of *Westlake Quarry*, *Jackson Excavating*, and *Galamet* applies here. The deciding factor is whether the process in question results in an end product different

in quality and adaptability from the original—a product suitable for new uses. Here, of the more than 250,000 customers of Appellants, only one used electricity at the same voltage as it exited the high-speed generators. In every other case, Appellants had to transform or adapt the electricity to a form or state demanded by their customers (L.F. 28-29, ¶¶ 1-4; L.F. 35, ¶ 37). Indeed, without transformation, the electricity had the capacity to harm Appellants' customers' appliances and cause fires! (L.F. 36, ¶ 40).[4]

Consistent with this Court's concept of manufacturing is the integrated plant approach to determining what is part of the manufacturing process. In *Floyd Charcoal Company, Inc. v. Director of Revenue*, 599 S.W.2d 173 (Mo. 1980), this Court adopted the integrated plant approach to manufacturing. Floyd Charcoal manufactured charcoal briquettes. Floyd Charcoal used weighing and sacking equipment that weighed the product, placed it in paper sacks, sewed the sacks shut, and shrink-wrapped plastic around numerous bags of charcoal to prevent moisture damage to the product. The Director argued that manufacturing was complete prior to the weighing and sacking, and that the weighing and sacking equipment was not a part of the manufacturing process. This Court

[4] Stipulation ¶ 40 states the obvious: providing 12,500-22,000 volt electricity to appliances and circuits in residences or businesses designed for 110 volts can cause fires and damage appliances.

disagreed:

> [Floyd Charcoal] produces charcoal briquettes but it produces them for distribution and sale only in packages which must be accurately weighed and closed. Those steps are an integral part of [Floyd Charcoal's] manufacturing process.

Id. 599 S.W.2d at 178.

The integrated plant approach is a practical rule that courts apply to give weight to the policies underlying the exemption of machinery and equipment used in manufacturing—to avoid double taxation and to encourage the location and expansion of industry. *Id*. at 177. The integrated plant approach:

> is consistent with the … legislative intent behind the exemption. Modern manufacturing facilities are designed to operate on an integrated basis, evidenced by the installation involved in this case. To limit the exemption to those items of machinery or equipment which produce a change in the composition of the raw materials involved in the manufacturing process would ignore the essential contribution of the devices required for such operation.

Id. at 178.

Likewise, in *Noranda Aluminum, Inc. v. Director of Revenue*, 599 S.W.2d 1 (Mo. 1980), this Court applied the integrated plant doctrine adopted in *Floyd*. The case

involved lab testing equipment that Noranda used as follows:

> Each day technicians take samples of the molten aluminum from each pot and periodically from each crucible which are sent to the laboratory which is in close proximity. The samples are immediately analyzed by the spectorchemical system. The results of the tests of the samples taken from the pots are then used to monitor the production process and determine whether it is functioning properly and to determine if there are impurities getting into the aluminum. These tests are run while the process of reducing aluminum oxide to its constituent elements of aluminum and oxygen is being carried on. The tests of the samples taken from the crucibles are used to direct the molten aluminum into further fabricating. ***Noranda's products consist of more than blocks of aluminum***.[5]

Id. at 4. Based upon the above description, this Court applied the integrated plant theory adopted in *Floyd* and determined that it was "clear that the items purchased and used in the laboratory are essential to and a part of the manufacturing … of the aluminum and the … manufacturing and fabrication of the aluminum into final products." *Id*.

Floyd and *Noranda* govern this case. Appellants use the current transformers and SCADA equipment, in conjunction with the RTUs and AGC equipment, to control the output

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[5] Emphasis added here and throughout, unless otherwise noted.

of the high-speed electric generators to "create" "blocks" of electricity that are the functional equivalent of the blocks of aluminum in *Noranda* (L.F. 39-40, ¶¶ 53-60). These devices "are essential to and a part of the manufacturing … of the [electricity] into final products[.]" *See Noranda* 599 S.W.2d at 4. The current transformers and SCADA equipment are actually part of the controls on the high-speed generators that the Commission concluded were used directly in manufacturing.

The Commission emphasized that NW and Sho-Me purchased power that other utilities generated and, in keeping with its erroneous conclusion that the manufacture of electricity ceases at the generators, concluded that application of the integrated plant doctrine to NW's and Sho-Me's further manufacture of that electricity was "illogical" (L.F. 134). While Sho-Me's and NW's current transformers and SCADA equipment control another utility's generators, that fact is not dispositive. Recently, in *DST Systems, Inc. v. Director of Revenue*, SC 82797 (Mo. banc 2001), this Court applied the integrated plant doctrine to two corporate entities "so long as both businesses work together to manufacture a single product" *citing Concord Publishing House, Inc.*, 916 S.W.2d 186, 192 (Mo. banc 1996). The current transformers and SCADA equipment purchased by Sho-Me and NW are clearly working together with Associated's generators to manufacture the "blocks" of electricity that Sho-Me and NW then alter or adapt for sale to their customers.

Therefore, the current transformers and SCADA equipment, whether they control the creation of electricity by generators owned by Appellants or others, are clearly used to manufacture electricity. This is true even under the Commission's narrow construction of "manufacturing."

The Commission also denied the exemption for power transformers and capacitors because, in its opinion, manufacturing was complete when "blocks" of electricity left the high-speed generators, because the power transformers and capacitors did not "create" electricity, and because "electricity is still electricity" (L.F. 134).

But electricity, like the blocks of aluminum in *Noranda*, is not the final product when "blocks" of it have been produced by the generators. Appellants are still required to use power transformers and capacitors to transform the "blocks" of electricity to a quality and adaptability suitable for sale to, and use by, their customers. The power transformers and capacitors alter or enhance the voltage, amperage, and reactive component (power factor) of the electricity to make it more marketable such that Appellants' customers can effectively and efficiently use it. Without the use of power transformers and capacitors to transform it, the electricity would be of the wrong voltage and "would damage many customers' appliances and probably cause fires" (L.F. 36, ¶ 40). Without the further use of the capacitors to correct the electricity's reactive component, the electricity would be less usable and marketable, because it would be less capable of doing work (L.F. 33, ¶ 28-29).

II. The Commission's Analysis is Flawed

A. The Relevant Authorities Support Appellants

Although no Missouri courts have addressed whether step-down power transformers, current transformers, SCADA equipment and capacitors are used directly in manufacturing electricity, numerous courts in other states have determined that certain of those devices are.

Recently, in *Northern States Power Company v. Commissioner of Revenue*, 571 N.W.2d 573 (Minn. 1997), the taxpayer claimed the manufacturing exemption on step-down, load tap and line transformers. The Minnesota taxing authorities denied the exemption, arguing, as the Director here, that the transformers served the primary function of transportation rather than manufacturing. The Supreme Court of Minnesota disagreed, concluding that "manufacturing" under Minnesota's statutory scheme was defined as a process that ends when the completed state of the product is achieved. *Id.* at 575. That court noted that the electricity was not usable by the customers in the absence of voltage reduction by the transformers, and concluded:

> In light of these definitions and the parties' stipulation, it is clear that electricity is not a "finished product" or in a "completed state" until it passes through the step-down, load tap and line transformers. Moreover, the electricity is not ready to be "sold at retail" until it is in a form usable by the ultimate consumer. Therefore, we conclude that the step-down, load tap, and line

> transformers are an integral part of the manufacturing process and, as such, are exempt capital equipment.

Id.

Similarly, in *Maine Yankee Atomic Power v. State Tax Assessor*, 690 A.2d 497 (Me. 1997), the Supreme Court of Maine recently held that step-up transformers qualified for the manufacturing exemption. As in this case and in *Northern States*, the court noted that the utility's customers demanded electricity at different voltages than produced by the generators. There, the generation voltage was 22 kV, but the customers demanded 345 kV electricity. The court held that because the transformers changed the form, character and composition of the electricity and because usable electricity could not be produced without the transformers, the transformers were both an essential and integral part of the production process. *Id.* at 500. Thus, the court held that the purchases of the transformers were exempt from Maine sales tax.

In *Curry v. Alabama Power Company*, 8 So.2d 521 (Ala. 1942), the Supreme Court of Alabama held that transformers are "processing machines" entitled to Alabama's manufacturing equipment exemption because:

> The movements of electrons in the separate circuits of a transformer convert electricity into a marketable form or change electricity into a marketable form. The purpose of a transformer is to put electricity in a form which is usable. Energy is transformed in order to make it marketable to domestic users.

Id. at 526.

The Commission largely ignored the above authorities, merely acknowledging in a footnote that Appellants cited them (L.F. 134). The Commission focused almost exclusively on the function of the capacitors and power transformers. Consequently, the bulk of its analysis dealt with whether the Machinery and Equipment actually "created" electricity (L.F. 132-134). The Commission concluded that the integrated plant doctrine did not apply to the Appellants' Machinery and Equipment. But its conclusion in that regard rests upon a flawed premise—that manufacturing is complete when 12,500-22,000 volt electricity leaves the generators. It attempted to support that flawed premise by relying heavily on a 45-year old New York case, *Niagara Mohawk Power Corp. v. Wanamaker*, 144 N.Y.S.2d 458 (N.Y. App. Div. 1955), *aff'd*, 157 N.Y.S.2d 972, 139 N.E.2d 150 (N.Y. 1956) (L.F. 128-130).

In *Niagara Mohawk*, the taxpayer used transformers at the Huntley generating station to immediately step up the voltage of electricity from 13 kV, as it exited the generators, to 23kV-115kV. It then used an elaborate system of substations, towers and poles, conductors, voltage regulators, circuit breakers and similar equipment to provide power to its residential customers. *Id*. at 462. Most of the taxpayer's customers (ninety-nine per cent) were residential customers requiring electricity at 120 or 240 volts. But "***by far the greatest part of its product***" the taxpayer sold, it sold to factories at the voltages exiting the Huntley transformers (23kV-115kV). *Id*.

The taxpayer argued that manufacturing was not complete until the pole transformers reduced the voltage to 120 or 240 volts for residential customers. The New York Court rejected those arguments, and determined that none of the above-described equipment

qualified for exemption because none of it "created" any electricity. *Id*. at 463. As to the substations, towers and poles, conductors, voltage regulators, circuit breakers and similar equipment, the Court focused on the industrial customers and emphasized that they were purchasing power at the voltage it left the Huntley step-up transformers so, for them, none of the additional down line equipment altered their power in any way. *Id*. As to the Huntley step-up transformers, the Court noted that, for the residential consumers, no step-up in voltage was required since they consumed power at a voltage already below the generation voltage. *Id.*

The Commission's reliance on the New York analysis places the Commission at odds with the decisions of this Court and the courts of Kentucky, Maine, Minnesota, and Alabama. In *Galamet*, 915 S.W.2d at 334, this Court determined that changing the form of a product is manufacturing because of the change in a product's adaptability and suitability for new uses. No "new article" need be "produced." *Id*. The reduction of the size of rock was manufacturing in *West Lake*, the purification of water was manufacturing in *Jackson Excavating*, and the reduction in the size of scrap metal was manufacturing in *Galamet*. No new rock, water, or scrap metal was "created."

With only one exception, none of Appellants' more than 250,000 customers demanded electricity at the generation voltage. Electricity at the generation voltage is, therefore, not the final usable product. In addition, New York's analysis is fatally flawed because it merely determined that not every customer required the transformation the equipment at issue made (residential consumers needed no increase in voltage from generation voltage and industrial customers needed no decrease in voltage from that leaving

the power plant). But the issue is not whether the machinery and equipment alters the products every customer buys, but whether that machinery and equipment alters the products that some customers buy. Thus, it should not matter whether industrial customers ever purchase power at 120 volts, or whether residential customers ever purchase power at 23,000 volts or higher, so long as some customers purchase the products in those forms. For instance, in *West Lake Quarry*, not all customers consumed the limestone in powder form (some bought gravel) but the machines required to pulverize the rock to powder were still held exempt.

The Commission also cited *L & R Egg Co. v. Director of Revenue*, 796 S.W.2d 624 (Mo. banc 1990) and *House of Lloyd v. Director of Revenue*, 824 S.W.2d 914 (Mo. banc 1992) (L.F. 135). In *L & R*, this Court determined that equipment used to clean, oil, inspect, weigh, grade, pack, and mark eggs was not used in manufacturing because those processes did not affect the contents of the egg, which was the only part of the egg that was used by consumers. *L & R* is distinguishable. Appellants' transformers and capacitors start with electricity at extremely high voltages (12kV-22kV), then adapt the electricity for their customers' uses by significantly altering the state or form of the electricity by increasing or decreasing its voltage. Unlike the contents of the eggs, which did not change, the electricity is altered and transformed for Appellants' customers' uses. Appellants use the power transformers and capacitors to take something that is "unsuitable," that can destroy Appellants' customers' appliances and burn down their offices and residences, and transform it into a "subdued servant" that their customers can use. As for the current

transformers and SCADA equipment, they actually control the output of the generators that create electricity.

Likewise, *House of Lloyd* is inapposite. There, the taxpayer conceded that it did not manufacture the demonstrator kits at issue. *House of Lloyd*, 824 S.W.2d at 917. This Court determined that House of Lloyd did not fabricate them either since it did not alter or change the products (contents of the demonstrator kits). Appellants' current transformers and SCADA equipment, working in conjunction with the high speed generators, create electrical energy from mechanical energy and the step-down power transformers and capacitors substantially change that product to a form or state that is marketable to and usable by Appellants' customers. The taxpayer in *House of Lloyd* merely repackaged products that it did not alter or transform in any way.

The Commission also relied on one of its own cases, *Empire District Electric Company v. Director of Revenue*, Case No. RS-79-0249 (Mo. Admin. Hrg. Comm. 1983) (L.F. 132-133). In that case, the Commission determined that a start-up/step-up voltage power transformer used by an electric utility ***was exempt*** manufacturing equipment under what is now §144.030.2(5). It determined that the transformer ***qualified for the manufacturing exemption*** because it was used to start up the generators ten to twenty times each year. Although unnecessary to its resolution of the *Empire District* case, there the Commission also considered whether the transformer's voltage step-up function qualified as manufacturing. It concluded that it did not, relying on "facts" not recited in the findings of fact but, rather, found in the text of *Niagara Mohawk*. The Commission's

factual findings in *Empire District* did not specify whether the step-up transformers were necessary to increase the voltage of electricity to that demanded by any of Empire's customers and/or to meet regulatory standards for the provision of power to those customers. Indeed, the only relevant finding was that "[t]he transformer also functions to increase (i.e. step-up) the voltage of the generated electricity from 13,800 volts to 161,000 volts, in order to facilitate in the distribution of the generated electricity along electric power lines to Petitioner's customers." *Id*. at Finding of Fact ¶ 8. In the present case, all of the power transformers at issue are voltage reduction, or step-down, transformers and the record is clear that many, if not most, of Appellants' customers demand power at voltages far below those exiting the generators. Empire District is therefore inapposite.

Last, the Commission noted the Director's Regulation 12 CSR 10-3.326 on "Direct Use," and opined that it was consistent with the statutes and the legislative intent (L.F. 135-136). The Director repealed that Regulation effective January 30, 2000. The Regulation provided in part:

> (2) The basic questions to be answered in determining direct use are—whether the disputed item is necessary to production; how close, physically and causally, is the disputed item to the ***finished product***; and whether the item operates harmoniously with other machinery to make an integrated and synchronized system.
>
> (3) As long as there is a continuous progression from raw material to ***finished product*** and there are not any extended

> interruptions in the manufacturing process, the integrated and synchronized system begins when raw materials enter the plant site and ends when the ***finished product*** leaves the plant site.

This regulation does not support the Commission's decision and in fact supports Appellants. First, the electricity Appellants sell is not a "finished product" until it has been transformed to the state or form demanded by Appellants' customers. Second, all of the Machinery and Equipment is interconnected to make a harmonious, integrated and synchronized electric utility system. (Indeed, one can hardly imagine a more integrated and synchronized system.) Last, there are no "interruptions" in the integrated process as the electricity "flows" through the integrated utility system.

In summary, Missouri case law, case law from other jurisdictions, and other authorities further demonstrate that Appellants' purchases are exempt from Missouri sales and use tax.

B. Industry Transmission and Distribution Labels are Irrelevant.

In an attempt to further support its decision, the Commission cited the stipulation that the utility industry distinguishes between three stages—production, transmission, and distribution—in providing electricity to customers (L.F. 134). Much of the Machinery and Equipment is housed at transmission and distribution substations. The incidence of taxation, however, is to be determined by the economic realities of the transactions and not by exulting form over substance. *Scotchman's Coin Shop. v. Administrative Hearing Commission*, 654 S.W.2d 873, 875 (Mo. banc 1983); *see also President Riverboat Casino-Missouri, Inc. v. Missouri Gaming Commission*, 13 S.W.3d 635, 638 (Mo. banc

2000) (the label placed upon an activity does not mandate a result consistent with the label). Thus, taxability is determined not by where the machinery and equipment is located and how an industry labels that location, but, rather, by what the machinery and equipment does and how it alters and adapts a product.

The economic reality of the transactions at issue is that the current transformers and SCADA equipment, in conjunction with other equipment, control the output of the high-speed electric generators that "create" the electricity and the power transformers and capacitors transform the quality and adaptability of the electricity such that Appellants' customers can harness it. Thus, Appellants' purchases qualify for exemption regardless of any industry labels.

CONCLUSION

Based on the foregoing, Appellants respectfully request that this Court reverse the Commission and remand with instructions to sustain Appellants' refund claims.

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I hereby certify that two true and accurate copies of the foregoing, as well as a labeled disk containing the same, were mailed first class, postage prepaid or hand-delivered this _____ day of June 2001, to State Solicitor Jim Layton, P.O. Box 899, Jefferson City, Missouri 65102.

_____

CERTIFICATE REQUIRED BY SPECIAL RULE 1(C)

I hereby certify that the foregoing brief includes the information required by Supreme Court Rule 55.03 and complies with the limitations contained in Supreme Court Special Rule 1(b). The foregoing brief contains 9,261 words.

The undersigned further certifies that the disk simultaneously filed with the briefs filed with this Court under Supreme Court Rule 84.05(a) has been scanned for viruses and is virus-free.

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